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Atsushi Yasuno

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[Title of Invention] Network Photograph Service System

[Scope of Demand for Patent]

[Claim 1] A network photograph service system comprising:

a plurality of laboratory servers which are capable of communicating with each other via a network and installed in a plurality of laboratories equipped with photograph printers; and

a center server installed in a service center which receives a printing service order via the network;

the center server carrying out a process comprising the steps of storing a picture recorded by a customer of each of the laboratories as digital image data, making the digital image data accessible on the network, selecting one laboratory to output a print among the laboratories in response to order information transferred from the customer via the network, and providing to the customer the printing service requested in the order by transmitting instruction information to the laboratory server installed in the selected laboratory.

[Claim 2] A network photograph service system as defined in Claim 1 wherein each of the laboratory servers stores the photographic image obtained by the laboratory in which the laboratory server is installed as high resolution image data.

[Claim 3] A network photograph service system as defined in Claim 2 wherein the digital image data stored in the center server and

made accessible by the center server are low resolution image data with a lower amount of data than the data amount of the high resolution image data stored in the laboratory server.

[Claim 4] A network photograph service system as defined in Claim 2 or 3 wherein the center server stores the digital image data correlated to storage location information showing the laboratory server in which the image data are stored as high resolution image data, and selects, upon selection of the laboratory to output the image, the laboratory the laboratory server of which has the photographic image whose print has been ordered stored as the high resolution image data therein, based on the storage location information.

[Claim 5] A network photograph service system as defined in any one of the Claims 1 to 4 wherein the center server records the processes instructed to each laboratory server by transmitting the instruction information, and manages transactions that occur among the laboratories and/or between the center server and each laboratory, based on the records.

[Detailed Description of the Invention]

[0001]

[Technical Field of the Invention]

The present invention is related to a network photograph service system that provides customers with services related to photographs via a network such as the Internet.

[0002]

[Conventional Technology]

In order to provide services related to photographs to customers, a network photograph service has been proposed that provides a variety of services such as ordering of extra prints, attaching of a photographic image to an electronic mail message, and downloading of photographic image data by installing a variety of pieces of equipment such as a scanner, a printer, and a server computer comprising a large capacity disc (hereinafter called an image server) in a major central laboratory in order to enable customers to save pictures that they have recorded in the image server and to access the image server via a network.

[0003]

The advantage of the network photograph service is that customers can order a print even when the customers are at home or at work. However, in reality, not everything, such as depositing films or receiving prints, can be carried out on a network. Therefore, it is usual to provide the service through a local camera shop or a minilab as an agency.

[0004]

From the customers' viewpoint, the more agencies there are, the more convenient the service is. However, it is preferable to have only one central laboratory which receives orders, from the viewpoints of facilitating understanding of where to access

when placing an order, and easier data management. Therefore, when a network photograph service is provided, it is considered to be better if a central laboratory has facilities and equipment concentrated thereat such that as many agencies as possible can be dealt with.

[0005]

[Problem to be Solved by the Invention]

However, in the case that all facilities are concentrated in one large scale central laboratory as described above, it is inevitable that the delivery dates of prints will be delayed, since delivery paths from agencies to the central laboratory become longer, and wait times are necessary after depositing films at agencies and before collection of the films.

[0006]

Although more rapid processing can be carried out by increasing the number of the central laboratories to shorten the delivery paths and by increasing the frequency of collections and deliveries, the advantages of a network photograph service system, such as easier understanding of access points and collective data management, are lost. Moreover, the increased frequency of collections and deliveries will lead to a rise in collection and delivery costs. Therefore, this is not a preferable solution.

[0007]

Based on consideration of the above problems, an object of

the present invention is to provide a network photograph service system that can provide prompt services to customers without losing the advantages of a network photograph service system, such as easier understanding access points and collective data management.

[0008]

[Means for Solving the Problem]

A network photograph service system of the present invention is characterized by comprising a plurality of laboratory servers which are capable of communicating with each other via a network and installed in a plurality of laboratories equipped with photograph printers; and a center server installed in a service center which receives a printing service order via the network, the center server carrying out a process comprising the steps of storing a picture recorded by a customer of each of the laboratories as digital image data, making the digital image data accessible on the network, selecting one laboratory to output a print among the laboratories in response to order information transferred from the customer via the network, and providing to the customer the printing service requested in the order by transmitting instruction information to the laboratory server installed in the selected laboratory.

[0009]

Here, the "laboratory servers" refer to server computers installed in individual laboratories, such as brick and mortar

minilabs. "The center server" is a server computer installed in a service center which collectively manages image data. Both the laboratory and the center servers have data recording media such as a hard disk with a capacity sufficient to store necessary image data. The laboratory server plays the role of a so called printer server, and is connected to a photograph printer (in the case that a plurality of photograph printers exist, the connection to the printers can be switched from one to another).

[0010]

The phrase "receives a printing service order via a network" means that an order is transferred from a customer as order information in a predetermined data format. More specifically, the format of the order information is, for example, disclosed on a web site on the Internet and a customer sends the order information created in accordance with the format to the center server, via an electronic mail message. Alternatively, if a customer creates an order by inputting information in a predetermined screen, the order may be converted automatically into the predetermined format of the order information and transmitted to the center server.

[0011]

The phrase "photographic image obtained by a laboratory" refers to photographic images obtained by a film scanner by scanning a film that a customer of the laboratory has brought in for first

printing. The phrase also refers to photographic images obtained from a memory or the like of a digital camera brought in by a customer, by using a variety of data reading transferring means such as a card reader, may be included as the photographic image. These photographic images are hereinafter dealt with as digital image data.

[0012]

The readout process may be carried out at a service center (in a collective manner). However, if each laboratory carries out the readout process, the date of delivery can be expedited because collection, and wait time therefor are obviated. In this case, an operation for transferring the digital image data obtained by the laboratory to the center server will be necessary. This data transfer to the center server may be carried out via the network each time the laboratory obtains digital image data, or collectively at predetermined timings. Alternatively, the center server may periodically take in the data from each of the laboratory server. In some cases (where the data are large), the data may be stored in a medium and then transferred without using a network.

[0013]

Note that here, the term "network" refers to a network as represented by the Internet. The network is meant to include all communication means having a communication speed sufficient to transfer the order information and image data, such as dedicated

lines, CATV networks, dial-up connections, and LAN's.

[0014]

The center server carries out " a process comprising the steps of storing a picture recorded by a customer of each laboratory as digital image data, making the digital image data accessible on the network" so that the digital image data are collectively managed and the customer can refer to the digital image data. When extra prints of photographs are ordered, the photographs to be printed are often selected by referring to all recorded photographs. The above image accessing function of the center server is a function that enables the selection to be performed on a display screen.

[0015]

The phrase "selecting one laboratory to output a print among the laboratories in response to order information" refers to selecting a laboratory having specialized equipment as the print outputting laboratory, when the printing service requested by the order needs specialized equipment to provide the service, such as generation of a picture postcard or a calendar. Alternatively, upon receiving orders for prints, by letting customers specify the laboratory at which they will receive the prints and by including information showing the specified laboratory in the order information, the specified laboratory may be selected as the laboratory to output the print.

[0016]

The phrase "processes for providing printing services to customers" refers to all processes necessary for providing printing services to the customers. For example, when extra prints of a photograph are ordered from a laboratory, digital image data of the photograph needs to be transferred from another laboratory to the laboratory, since the extra print cannot be generated without the digital image data of the photograph. In other words, the "processes for providing printing services to customers" means not only outputting prints with printers but also a series of processing steps including such data transfers.

[0017]

The term "order information" specifically refers to, for example, processing numbers that specify what has been ordered (such as extra prints or postcard generation), image numbers that identify photographs, the sizes of prints, and the numbers of prints. The "instruction information" includes not only the order information but also information showing where digital image data can be obtained from (where the digital image data are stored) and the like. In this case, when the laboratory server which receives the instruction information does not have the necessary image data, the server requests the center server or the image server of the laboratory specified as the server from which the image data are obtained to transfer the digital image data. Alternatively, the digital image data necessary for printing may

be included in the instruction information.

[0018]

It is preferable for each laboratory server to store photographs obtained by customers of the laboratory at which the server is installed as high resolution image data. In this manner, it becomes unnecessary to obtain digital image data from another laboratory when extra prints are ordered by customers of the laboratory.

[0019]

In the case that each laboratory server stores digital image data of its customers as described above, digital image data which have been stored in the center server and are accessible may be low resolution image data with a lower amount of data than that of the high resolution image data having been stored in the laboratory server. In other words, digital image data may be classified in such a manner that the digital image data of the laboratory server are used for outputting prints, while the digital image data in the center server are used for access via the network.

[0020]

In the case that high resolution image data for outputting a print are stored in a laboratory server, it is more efficient for the laboratory server to carry out printing, since the amount of data to be transferred becomes less in this case. Therefore, when the center server stores digital image data for access, it

is preferable that the digital image data are stored correlated to storage location information showing the laboratory server which has high resolution image data of the digital image. Thereby, when the laboratory server to output a print is selected, the laboratory, in which the laboratory server that has stored therein the high resolution image data of the digital image whose printing has been ordered, is selected based on the storage location information.

[0021]

In the case that prints are output from a laboratory different from the laboratory that has the digital image data stored thereat, the charge for the printing service is increased by a communication charge necessary to transfer the data. When such data transfer occurs, the service charge paid by the customer should be shared by the laboratory that outputs the prints and the laboratory that stores the digital image data, since the two laboratories contribute to providing the printing service. As described above, in the network photograph system of the present invention, the cost varies depending on the content of the instruction information transmitted by the center server, and particularly on whether data transfer is necessary, or on the amount of data to be transferred. Therefore, the center server may manage transactions that occur among the laboratories or between each laboratory and the service center by recording the processes instructed to each laboratory server

via transmissions of instruction information so that the records may be used to control the amounts of money customers are charged or for electronic settlements, for example.

[0022]

Here, the " printing service" in this specification refers not only to services such as outputting extra prints and generating picture postcards as described above, but also all accompanying services carried out before the photograph prints reaches customers. More specifically, the mailing or delivery service instead of pickup by customers of finished print over a counter, a service that informs customers via electronic mail that their prints are ready or that a storage period of digital image data in a laboratory is about to expire, a service of extending the storage period by receiving electronic mail from customers, a service by which customers can select the laboratory at which to receive prints, a service of arranging ordered photographs in an album, and a service of mounting prints on photograph mounts in the case that photographs are memorial photographs, are all considered to be included in the printing service, for example.

[0023]

Therefore, the "instruction information" and the "order information" are meant to include all information necessary for the accompanying services, such as: how a print is to be received, and the address or the electronic mail address of the recipient.

Such information can obviously be used not only for reference but also for a variety of processes. In other words, with a printer for generating mailing labels connected to the laboratory server, processes such as automatic mailing label printing can be carried out by referring to the name and address of a recipient included in the instruction information, when the "instruction information" specifies mailing of prints.

[0024]

[Advantageous Effects of the Invention]

The network photograph service system of the present invention enables communications via the network between the service center for receiving orders for printing services and the laboratories scattered in each area. The center server at the service center selects the laboratory to output the ordered prints in response to the order information transferred from customers via the network, and assigns printing processes to each laboratory instead of carrying out the printing processes itself. Therefore, the number of collections and deliveries of films and prints is reduced, and prompt services are provided to customers. In this case, order reception is carried out collectively by the service center, and the advantages of the network photograph service system, such as ease of understanding an access point and collective data management, will not be lost.

[0025]

If each laboratory server stores photographs obtained by customers of the laboratory in which the laboratory server is installed in the form of high resolution image data, no data transfer occurs when the laboratory is ordered to carry out the printing of the customers' photographs. Reductions in network load and in communication costs can thus be achieved in this manner.

[0026]

In this case, the digital image data stored in each laboratory only need to be transferred for printing when necessary. Therefore, the digital image data stored in the center server may be low resolution image data whose resolution has been lowered to such a degree that no problem occurs in displaying the low resolution image data on a display screen when the image data are accessed. In this manner, disk space of the center server can be utilized efficiently.

[0027]

When the laboratory to output prints is selected, if the laboratory that stores the digital images of which prints have been ordered as high resolution image data is selected in principle, the network load and costs can be reduced compared with the case where another laboratory is selected. This is because high volume data transfer will be obviated.

[0028]

Moreover, costs vary depending on whether data is to be

transferred and on the amount of data to be transferred. Therefore, if the center server carries out transaction management among the laboratories or between each laboratory and the center server based on the instruction information, control of service charges, electronic settlements and the like are facilitated.

[0029]

The network photograph service system becomes more valuable if more laboratories taking part in the system exist over a wider area. Therefore, to make such a system truly worthwhile, an effort should be made to increase the number of affiliated laboratories by fully considering not only the convenience for customers and effectiveness of the system, but also laboratory profits. In the form of a system where equipment is concentrated in a service center, brick and mortar laboratories become mere agencies and their profits decrease. Therefore, there is no reason to positively recommend that customers use the network photograph service. On the other hand, in the present system, brick and mortar laboratories can gain profits by providing printing services. Furthermore, in the form where each laboratory stores its customers' high resolution image data, jobs related to the data is assigned to the laboratory with priority over other laboratories. Therefore, the more its customers use the network photograph service, the more the laboratory profits.

[0030]

In other words, the present invention can not only solve technical problems but also overcome administrative problems that may hinder the spread of a network photograph service system. Therefore, the advantageous effects of the present system in practical use are extremely great.

[0031]

[Embodiments of the Invention]

Hereinafter, a network photograph service system of the present invention will be described with reference to the accompanying drawings. The form of a system in which facilities and equipment are concentrated in one central laboratory and the problems associated therewith will be explained first referring to Figure 5.

[0032]

In the system shown in Figure 5, a customer 1 asks for first prints from an agency 13 (121). The first prints may be generated by the agency 13 itself or by a central laboratory 14 following the request to the agency 13. In each case, a film from the customer 1 is temporarily handed to the central laboratory 14 (122). The central laboratory 14 reads the film using a scanner 7 or the like, and stores pictures recorded on the film in an image server 15 as digital image data. If first prints have been ordered from the central laboratory, the prints are generated by a printer 9 or the like, delivered to the agency 13 (123), and then handed

to the customer 1 via the agency 13 (124).

[0033]

After the image server 15 has stored the digital image data, the customer 1 can access the image server 15 via the Internet 5 (125), and order extra prints or the like while viewing the stored photographic image data on a display screen. In response to this order, the image server 15 generates prints using the printer 9 or the like, and delivers the print to the customer 1 (127) by mail or via the agency (126).

[0034]

As is obvious from the flow of processes described above, the central laboratory 14 must collect all films from customers of all agencies in this system. Therefore, it is possible for the delivery of prints to be delayed due to a collection and/or delivery queue or a processing queue. Since the collection and delivery of the films and prints are carried out by hand, the date of delivery of the finished print may be delayed by several days due to the collection and/or delivery queue, depending on the number of collections and deliveries per day. In other words, in this system, it becomes easier to order an extra print or the like, but prompt service is not necessarily guaranteed. Furthermore, if an agency carries out first printing, input processes need to be carried out by both the agency and the central laboratory, for example. Therefore, this system often causes inconvenience.

[0035]

In the network photograph service system of the present invention, as shown in Figure 1, a customer 1, a service center 2 which receives an order, and a minilab 3 or a specialized laboratory 4 with specialized equipment can all communicate via a network. Because the service center and the specialized laboratory need to communicate especially frequently, they use high speed lines so that they can handle more orders promptly.

[0036]

In the embodiment shown in Figure 1, digital image data input is carried out by the minilab 3. When the customer orders first prints at the minilab 3, the minilab 3 reads a film using a scanner 7 and generates first prints using a printer 9. The digital image data read by the scanner 7 are stored in a laboratory server 8 after the generation of the first prints. At this time, low resolution image data which are the digital image data in a reduced resolution (hereinafter called thumbnail images) are generated and transferred to a center server 12 at the service center 2.

[0037]

The center server 12 at the service center 2 stores the thumbnail image transferred from each laboratory correlated to the laboratory from which the image has been sent, while making the thumbnail image accessible on the network. At this time, the thumbnail images do not need to be of particularly high quality,

because the customer uses the thumbnail image only to confirm the photographs when placing orders. In order to save disk space, it is more preferable for the thumbnail images to have smaller amounts of data. In this embodiment, digital image data that the laboratory server 8 stores for outputting a print has 4 base pixels (approximately 1024 × 1792 pixels) which are necessary for outputting an L size print at 300 dpi, while the digital image data that the center server 12 stores for an access via the network has 1/4 base pixels (approximately 368 × 256 pixels).

[0038]

When the digital image data are made accessible, the customer only needs to confirm his or her own photographs. In other words, he or she does not want others to see his or her pictures. Therefore, by authentication using passwords, each customer has only limited access to data he or she can view. The passwords may be determined by customers when they order first prints. Alternatively, the minilab may determine the passwords by assigning appropriate ones.

[0039]

Regarding access to the center server, the above service is provided in the form of a web page if on the Internet, and customers can access the center server using a browser such as Netscape Navigator. Alternatively, if the service is provided as another unique communication service, dedicated software may be distributed to each customer. In each case, the customer 1 can

request a printing service without going to the minilab 3 by carrying out predetermined input on an order screen while confirming the thumbnail images of his or her photographs, which are stored in the center server 12, via the network from his or her house or office, or through generation of order information in a predetermined format and transmission of the information via electronic mail to the center server 12.

[0040]

An example of the order information transmitted from the customer to the center server 12 is shown in Figure 2. The order information contains information necessary for extra prints, such as the image number, the size, the number of extra prints, and how the finished prints are to be received. Moreover, the content of the service which can be provided through the network includes not only the service accompanying the print output, but also all services related to the printing service. For example, when a storage period of digital image data in the laboratory 8 will expire in a few days but the customer has not decided on photographs to order extra prints for, a request for extended storage in this case can be considered as a part of the services related to printing. That is, the format of the order information may be defined appropriately according to the service to be provided, and the order information illustrated in Figure 2 is merely an example.

[0041]

When the center server 12 receives such order information, it assigns a laboratory for outputting the ordered prints. For instance, Figure 3 shows an example of a process for assigning a laboratory for outputting the ordered print in the case where the order information in Figure 2 is used. In this example, it is judged whether the requested process requires specialized equipment by referring to the data showing the processing number. If the process requires the specialized equipment, the specialized laboratory 4 is selected as the laboratory to output the prints, and instruction information in a predetermined format is generated and transferred to the laboratory server 8 in the specialized laboratory 4. In this case, the specialized laboratory 4 does not have digital image data to be printed. Therefore, the instruction information includes the information showing the laboratory at which the digital image data is stored.

[0042]

When a process that does not require specialized equipment, such as ordinary extra prints, is requested, it is checked if the customer wants to receive the print over the counter or by mail or delivery, by referring to order information data showing how the print is to be received. In the case of mailing or delivery, it is no more convenient to the customer no matter which laboratory outputs the prints he or she has ordered. Therefore, the laboratory which is most efficient for the system, that is, the laboratory

at which the high resolution image data for outputting the ordered print is stored, is selected.

[0043]

In the case that the customer wants to receive the print over the counter, the order information data showing the laboratory at which the print is to be received is referred to, and the laboratory is selected as the laboratory to output the print. When no laboratory is specified in the order information, the laboratory which stores the high resolution image data is selected. When the laboratory specified by the customer does not have the high resolution image data, the information showing where the high resolution image data are stored is included in the order information, as in the case where the specialized laboratory 4 is selected.

[0044]

When the center server 12 transmits the order information to the laboratory selected as described above, it records the content of the order and calculates a data storage fee, a communication charge and the like to be paid to each laboratory by periodically tallying the amount of data transferred and the like. In this manner, transactions between the center server 12 and each laboratory, or among the laboratories, are managed. Management is carried out in this manner, because each laboratory can gain appropriate profits by printing or by storing digital

image data of its customers. Such data are obviously used in a charge billing system to customers as well.

[0045]

The laboratory server 8 which has received the order information carries out the process such as outputting extra prints according to the content of the order included in the order information, and hands the print to the customer or arranges mailing or the like. Here, the handing to the customer or a mailing arrangement should be carried out by humans, as has been carried out conventionally. However, the laboratory server 8 can carry out processes to help such operations, for example, printing a mailing label automatically by referring to the order information data showing the recipient, and to notify the recipient of completion of the print output by automatically sending him or her an electronic mail.

[0046]

The structure and functions of the network photograph service system of the present invention have been described above. An example of use of the system is shown in Figure 4, to illustrate the utility thereof.

[0047]

For example, assume a case in which a customer photographs images with his or her friend who came from overseas, and first prints are then ordered from a nearby minilab 3a (101). The first

prints are immediately processed by the minilab 3a, and the film is returned to the customer when the prints are finished (102). Assume that the customer then visits the same friend at the friend's house overseas, and photographs more images. Conventionally, first prints of pictures recorded on a trip have been ordered after returning home from the trip. However, since every operation, except for printing films, can be carried out via the network in the network photograph service system of the present invention, it is highly likely that this system has affiliated laboratories overseas. Therefore, even when first prints are ordered from a minilab 3b near the friend's house (103), and the prints are received there (104), extra prints can be ordered after the customer returns to his or her country.

[0048]

After the customer returns home, he or she accesses the center server 12 from the personal computer 6 at home and orders extra prints of these pictures (105). At this time, for example, among the pictures whose first prints were ordered from the minilab 3a, an extra print of a picture a is ordered for the customer while an extra print of a picture b is ordered for the friend, and among the pictures whose first prints were ordered from the minilab 3b, an extra print of a picture c is ordered for the customer.

[0049]

As for the pictures for the customer, the minilab 3a is

specified as the laboratory at which the prints are received. As for the picture for the friend, mailing may be specified as the method to receive the print. However, in the case of air mail, it will take more than one day for the print to reach the friend. On the other hand, if an order is carried out with the friend being specified as the recipient and the laboratory 3b as the laboratory at which the print is to be received, the print can reach the friend on the day of the order at the earliest.

[0050]

When such an order is carried out, the center server 12 instructs the image server in the minilab 3a to output the prints of the pictures a and c, while notifying the image server of the network address of the laboratory server in the minilab 3b which stores the picture c (106). In this manner, the laboratory server in the minilab 3a can obtain the digital image data of the picture c by a transfer of the data from the laboratory server in the minilab 3b (107). Likewise, the center server 12 instructs the minilab 3b to print the picture b to and notifies the laboratory 3b of the network address of the laboratory server in the minilab 3a which stores the picture b (108). In this manner, the laboratory server in the minilab 3b can obtain the digital image data of the picture b by a transfer of the data from the laboratory server in the minilab 3a (109). By such transfer processes of the digital image data, the pictures a and c are printed at the minilab 3a

and provided to the customer (110), while the picture b is printed at the minilab 3b and provided to the customer's friend (111). In this system, if the customer notifies the friend of the customer's password, the friend can order a picture he/she wants directly.

[0051]

As shown by the above example, according to the network photograph service system of the present invention, the printing service can be received as necessary, at a desired place, and in a shorter time than before, regardless of the location of the laboratory where the first prints have been ordered. This is extremely convenient not only for the example shown in Figure 4 but also for businesses, such as the case where a picture suddenly becomes necessary during business activity going on from place to place.

[0052]

Note that in the embodiment described above, the center server 12 stores the thumbnail images for access via the network, while the laboratory server 8 stores the high resolution image data for printing. However, it is needless to say that the center server may store the high resolution image data for printing which are also used as the image for access, while the laboratory server 8 carries out printing only, without storing the high resolution image data.

[Brief Description of the Drawings]

[Figure 1] a diagram that shows an embodiment of the network photograph service system of the present invention

[Figure 2] a diagram that shows an example of order information

[Figure 3] a flow-chart that shows an example of a laboratory assignment process performed by a center server

[Figure 4] a diagram that shows an example of how the network photograph service system of the present invention is used

[Figure 5] a diagram that shows an example of how a network photograph service system in which facilities and equipment are concentrated in one laboratory is used

[Explanation of the Reference Numerals]

1 customer

2 service center

3 minilab

4 specialized laboratory

5 network

6 personal computer

7 scanner

8 laboratory server

9 printer

10 multifunctional scanner

11 multifunctional printer

12 center server

13 agency

14 central laboratory

15 image server

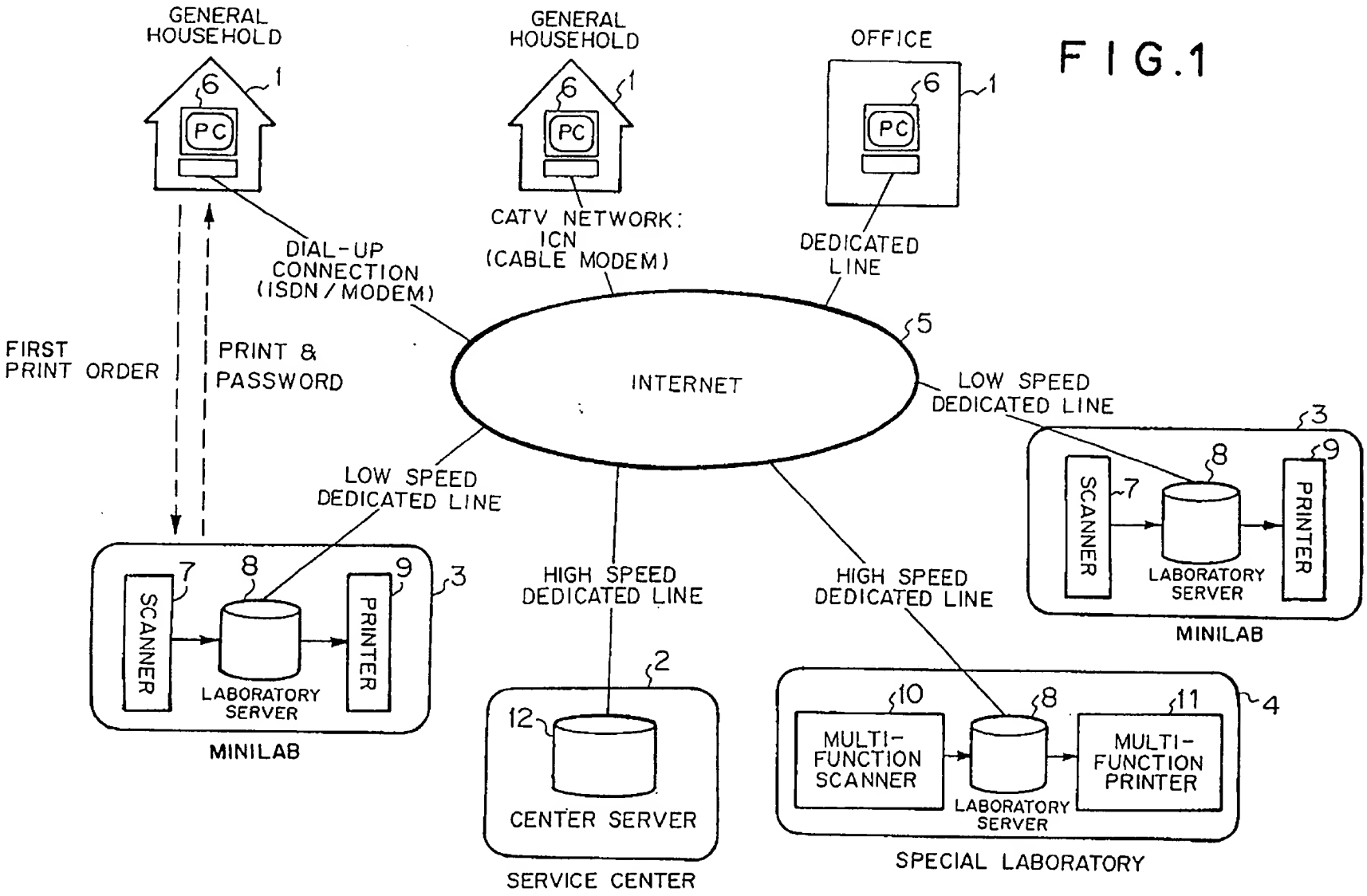

GENERAL HOUSEHOLD
GENERAL HOUSEHOLD
OFFICE
PC
DIAL-UP CONNECTION (ISDN / MODEM)
CATV NETWORK: ICN (CABLE MODEM)
DEDICATED LINE
FIRST PRINT ORDER
PRINT & PASSWORD
INTERNET
LOW SPEED DEDICATED LINE
LOW SPEED DEDICATED LINE
HIGH SPEED DEDICATED LINE
HIGH SPEED DEDICATED LINE
SCANNER
LABORATORY SERVER
PRINTER
MINILAB
CENTER SERVER
SERVICE CENTER
MULTI-FUNCTION SCANNER
MULTI-FUNCTION PRINTER
SPECIAL LABORATORY

FIG.1

FIG.2

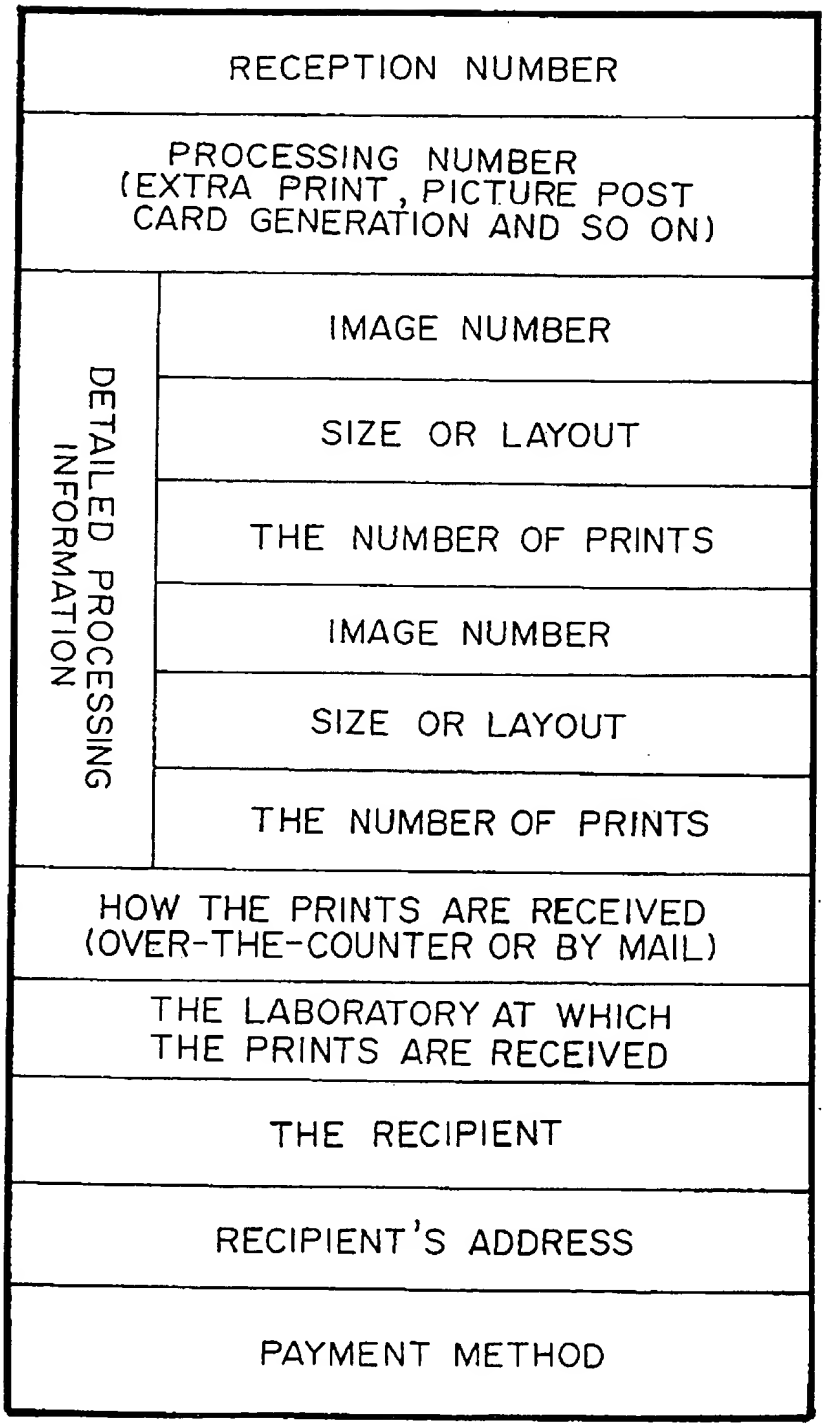

RECEPTION NUMBER
PROCESSING NUMBER (EXTRA PRINT, PICTURE POST CARD GENERATION AND SO ON)
DETAILED PROCESSING INFORMATION
IMAGE NUMBER
SIZE OR LAYOUT
THE NUMBER OF PRINTS
IMAGE NUMBER
SIZE OR LAYOUT
THE NUMBER OF PRINTS
HOW THE PRINTS ARE RECEIVED (OVER-THE-COUNTER OR BY MAIL)
THE LABORATORY AT WHICH THE PRINTS ARE RECEIVED
THE RECIPIENT
RECIPIENT'S ADDRESS
PAYMENT METHOD

FIG. 3

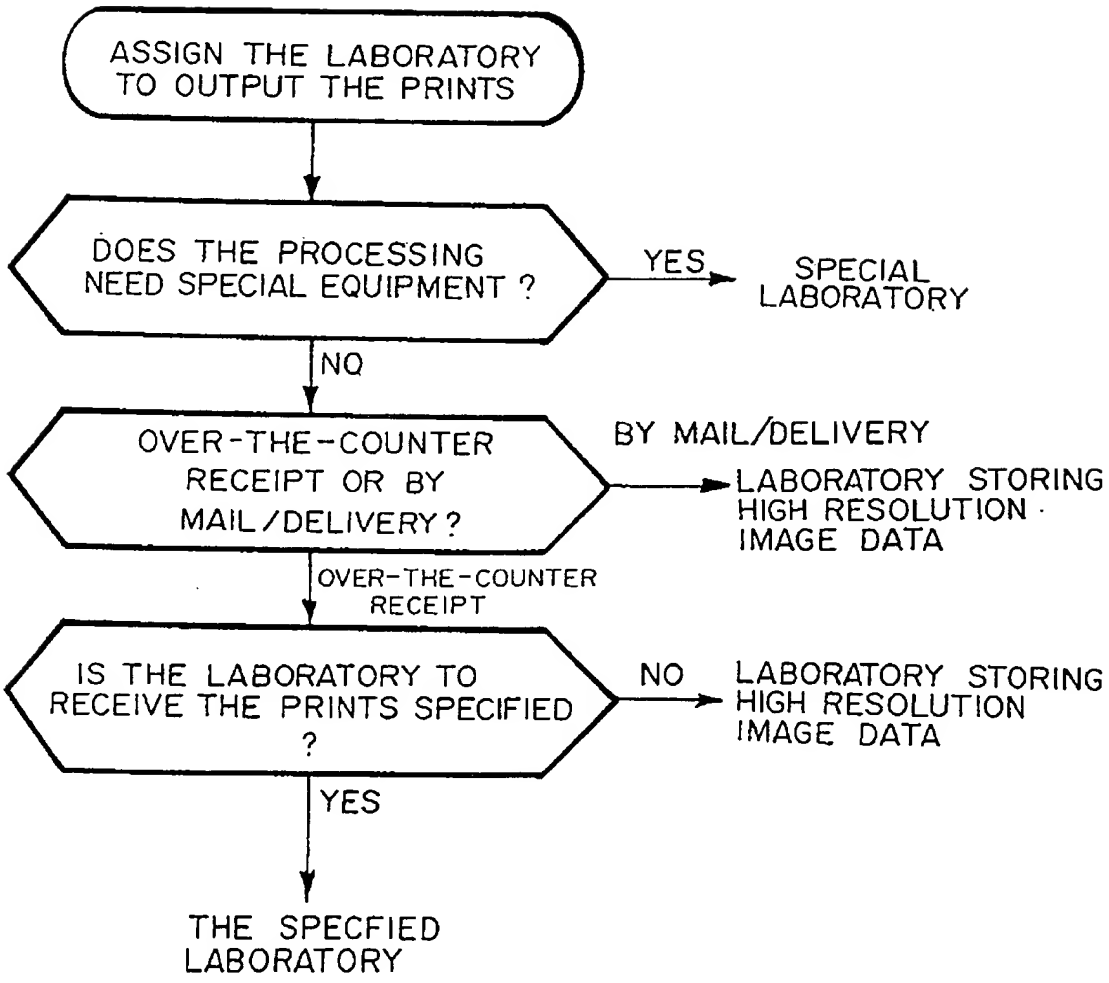

ASSIGN THE LABORATORY TO OUTPUT THE PRINTS
DOES THE PROCESSING NEED SPECIAL EQUIPMENT ?
YES
SPECIAL LABORATORY
NO
OVER-THE-COUNTER RECEIPT OR BY MAIL/DELIVERY ?
BY MAIL/DELIVERY
LABORATORY STORING HIGH RESOLUTION IMAGE DATA
OVER-THE-COUNTER RECEIPT
IS THE LABORATORY TO RECEIVE THE PRINTS SPECIFIED ?
NO
LABORATORY STORING HIGH RESOLUTION IMAGE DATA
YES
THE SPECFIED LABORATORY

FIG.4

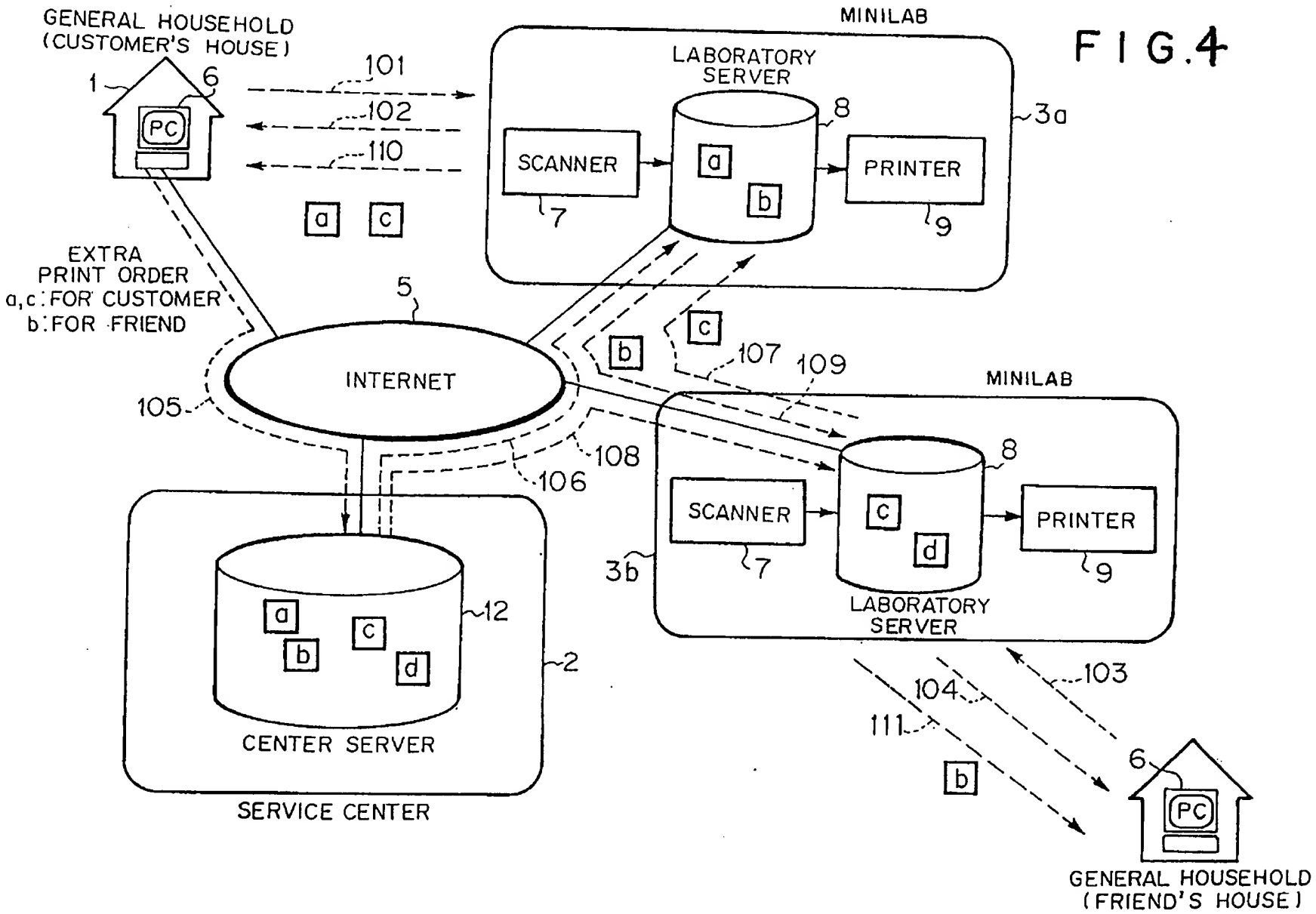
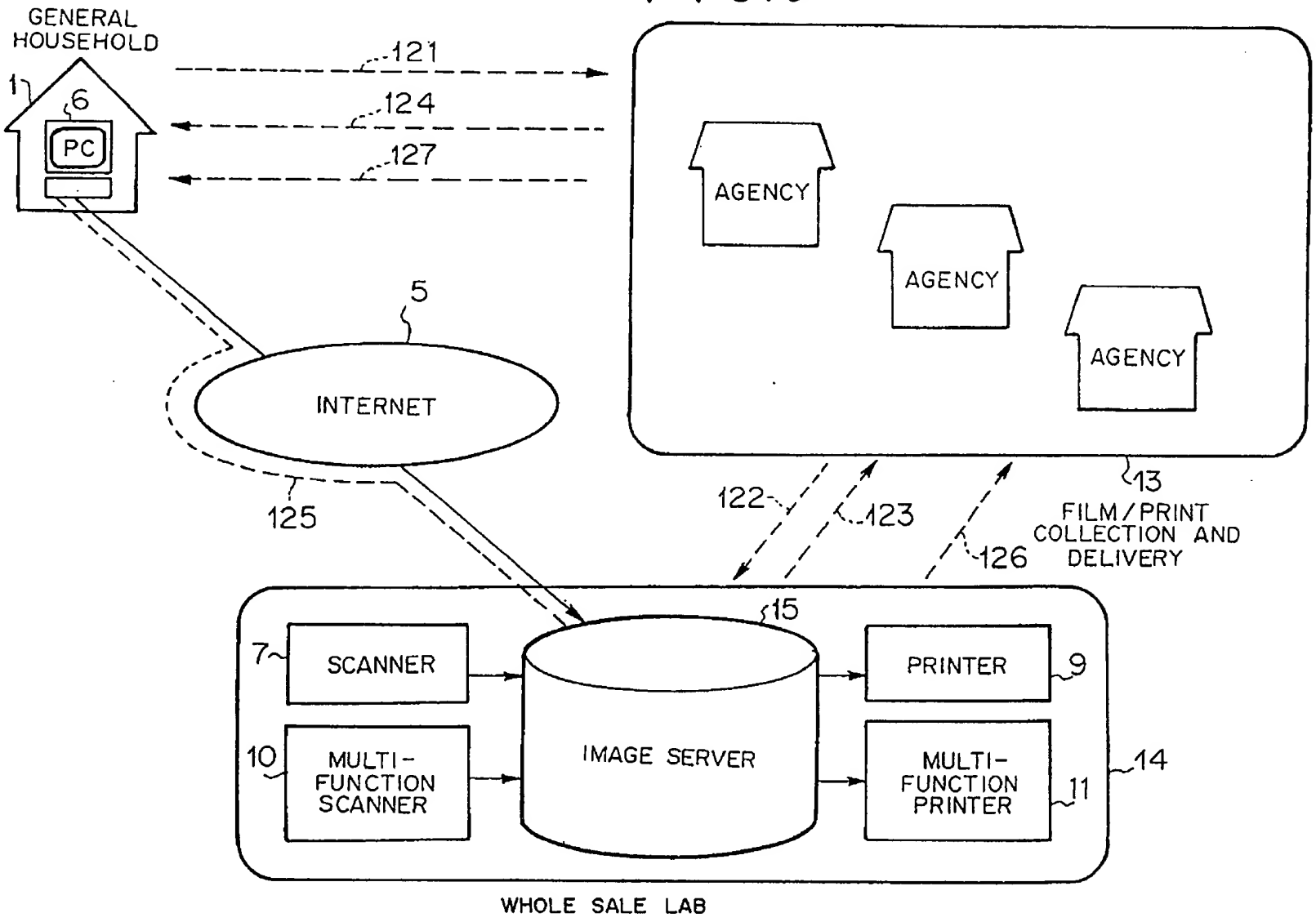

GENERAL HOUSEHOLD
(CUSTOMER'S HOUSE)
1
6
PC
101
102
110
a
c
EXTRA
PRINT ORDER
a,c : FOR CUSTOMER
b : FOR FRIEND
MINILAB
LABORATORY
SERVER
8
3a
SCANNER
7
a
b
PRINTER
9
5
INTERNET
105
b
c
107
109
MINILAB
108
106
8
SCANNER
7
c
d
PRINTER
9
3b
LABORATORY
SERVER
12
a
b
c
d
2
CENTER SERVER
SERVICE CENTER
103
104
111
b
6
PC
GENERAL HOUSEHOLD
(FRIEND'S HOUSE)

FIG.5


GENERAL HOUSEHOLD
1
6
PC
121
124
127
AGENCY
AGENCY
AGENCY
5
INTERNET
125
122
123
126
13
FILM/PRINT COLLECTION AND DELIVERY
15
7
SCANNER
10
MULTI-FUNCTION SCANNER
IMAGE SERVER
PRINTER
9
MULTI-FUNCTION PRINTER
11
14
WHOLE SALE LAB

[Name of Document] Abstract

[Abstract]

[Objective]

When providing a network photograph service, prompt service can be provided to customers without losing the advantages thereof, such as ease of understanding access points and collective data management.

[Constitution]

A service center 2 for receiving orders for printing services and minilabs 3 or specialized laboratories 4 spread across a plurality of places are able to communicate through a network. A center server 12 in the service center 2 selects and assigns the laboratory for printing ordered pictures in response to order information transferred from customers 1 via the network so that the printing process can be carried out by a desired laboratory instead of the center server.

[Selected Figure] Figure 1